Course Title: Models of biophysical system

Catalog Description: Neuroscience is the study of how neurons work. The mathematics of neuroscience have reached a level that it can fill a 3 hr course at the third year undergraduate level. This material is important for students who are interested in artificial neural networks and machine learning. The mathematics of neuroscience is a good training ground for extended the techniques of artificial neural networks and novel extensions of machine learning.

Prerequisites: ECE 310, Math one of MATH 284, 285 or 286 (differential equations)

Instructor(s): Jont Allen

How many times has this course been offered? 0

If course has been offered before, what was the enrollment _______ Undergrads _______ Grads

Proposed for: Fall _X_ Spring _______

Year 2019 _______ Year _______

Course No: ECE 198 ___ ECE 298 ___ ECE 398 ___ X ___ ECE 498 _______ ECE 598 _______

Credit: __3__ undergraduate hours _____ graduate hours

Normally credit of 1 hour results from 3 hours of lab or 1 hour of lecture-discussion per week for ECE 498 level courses.

Please indicate: Lect _X_ Disc _______ Lab _______.

Time of Day: Morning _______ Days of week: 3 _______

Labs: _______ No _______ Maximum enrollment 40 _____ ITS Room ___ NO (please circle)

Course Justification:

a. Please attach the course syllabus. The syllabus should include basic and recommended texts (author, title, year of publication) as well as a topical outline, number of examinations, contact hours, work required of students, and basis for determining grade.

b. Justify the course in terms of new subject matter and how the addition of this course relates to the overall pattern of the courses in your unit.

c. Explain how the course is different from similar offerings in other units.

Request prepared by: Jont Allen Date: Jan 18, 2019

Recommendations:

Area Committee _______ BIBA _______ Date ________________.

Curriculum Committee __________________________ Date ________________.

Graduate Committee ___________________________ Date ________________.